

May 8, 2017

Mr. Nigam Tripathi
W-L Molding
WPI, LLC
16685 150th Ave.
Spring Lake, Michigan 49456

Re: Indoor Air Sampling Activities – W-L Molding, 8212 Shaver Road, Portage, Michigan

Dear Mr. Tripathi:

The following letter serves to provide results of indoor air sampling activities related to a volatilization to indoor air concern at the above referenced site.

Indoor Air Sampling Activities and Analytical Data Review

Prior to indoor air sampling activities, Envirollogic conducted a facility-wide indoor air survey on January 23, 2017 to identify site features (heating/cooling exchange, chemical storage, etc.) that could influence indoor air analytical results. An underground utility vault was observed in the southeast corner of the production floor. The vault is constructed of concrete walls/ceiling with an earth floor. No other basement or crawl space features were identified.

On January 24, 2017, Envirollogic collected indoor air samples from 11 locations throughout the W-L Molding building. Sample locations are provided in Figure 1 (Attachment A). Samples were collected in 6-liter summa canisters, deployed in the breathing zone, over a 12-hour period. Samples were submitted to Fibertec Laboratories in Holt, Michigan under chain-of-custody. Indoor air samples were only analyzed for tetrachloroethylene (PCE) and trichloroethylene (TCE). On April 26, 2017, Envirollogic conducted a second round of indoor air sampling at nine of the locations in the W-L Molding building. Samples were collected over an 8-hour period and analyzed for the same compounds. Analytical results are summarized in Table 1 (Attachment B). Both laboratory analytical reports are provided in Attachment C.

Indoor air analytical data was compared to Non-Residential Indoor Air Levels, per guidance from the Michigan Department of Health and Human Services (MDHHS) and Department of Environmental Quality (MDEQ). As presented in Table 1, Indoor Air Action Levels and Indoor Air Evacuation Levels are used to evaluate whether further site characterization, sub-slab soil gas mitigation, and/or the evacuation of a building is warranted, as deemed necessary by the MDHHS and MDEQ.

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Analytical results from the January 2017 sampling event identified TCE concentrations greater than the Non-Residential Indoor Air Action Level (at eight of the 11 sample locations) and the Non-Residential Indoor Air Evacuation Level (at six locations). Analytical results from the April 2017 sampling event identified TCE concentrations greater than the Non-Residential Indoor Air Action Level and the Non-Residential Indoor Air Evacuation Level at three locations (one in the production floor and two in the offices). Note that over the two sampling events, the highest concentration of TCE was identified near the opening of the sub-grade utility vault (WLM-3). Tetrachloroethylene was not detected during either indoor air sampling event.

During the first indoor air sampling event (January), the building envelope was closed off to outdoor air, except for overhead ventilation fans that were operating across the production floor. During the second indoor air sampling event (late April), several overhead doors were open in the loading dock, production floor, and warehouse, thus allowing an influx of outdoor air. The decrease in TCE concentrations (at select locations) between the two sampling events is likely attributed to dilution from outdoor air via the overhead doors. Based on the two indoor air sampling events, it is apparent that while indoor air conditions in the facility vary on a seasonal basis, the concentration of TCE consistently exceeds the Non-Residential Indoor Air Evacuation Level.

Further Action

Based on the current Indoor Air Evacuation Level that is utilized by the MDHHS and MDEQ for TCE, the indoor air analytical data from both sampling events demonstrates that there is an immediate exposure risk via the volatilization to indoor air pathway associated with historical operations at the W-L Molding facility. To avoid a potential building evacuation by the MDHHS, Envirologic recommends the following actions be taken to reduce TCE concentrations in the indoor air.

- Immediate action should be taken to seal the utility vault (near the southeast corner of the facility) and provide outdoor ventilation from the vault, thus short-circuiting the potential migration of vapors from the sub-grade vault into the facility.
- Thoroughly inspect the concrete floor across the facility and seal any potential conduits by which vapors could migrate from underneath the concrete.
- Conduct sub-slab soil gas sampling across the facility to evaluate where elevated concentrations of TCE are present underneath the concrete floor.
- Install a sub-slab depressurization system to mitigate soil gas from areas where elevated concentrations of TCE are identified underneath the facility.



Mr. Nigam Tripathi

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While Envirologic recognizes that WPI, LLC is a non-liaible party, the MDHHS possesses the authority to evacuate a building until a demonstration can be made that working conditions are suitable for employee occupancy. Further action is recommended to meet due care obligations, therefore protecting employees from an unacceptable exposure via the volatilization to indoor air pathway.

If you wish to discuss the recommended actions, proposed costs, or potential funding opportunities, please do not hesitate to contact our office at (269) 342-1100.

Sincerely,

ENVIROLOGIC TECHNOLOGIES, INC.



David A. Stegink
Associate Vice President –
Senior Environmental Scientist



Derrick A. Lingle
Project Manager – Hydrogeologist

Attachments

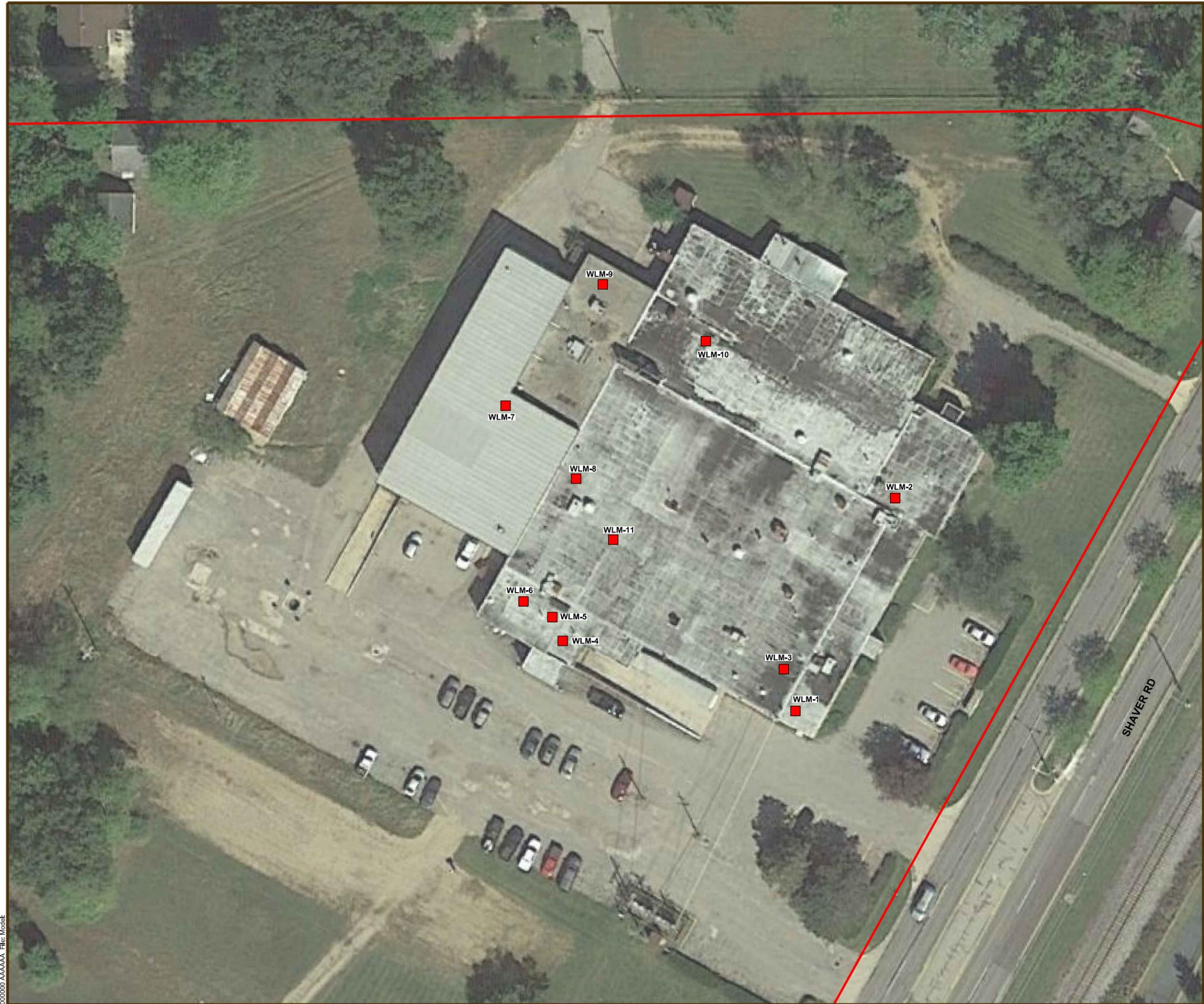
cc: Rachael Grover, Kalamazoo County Brownfield Redevelopment Authority



ATTACHMENT A

FIGURE 1: SITE PLAN





LEGEND

■ INDOOR AIR SAMPLE LOCATIONS



SCALE 1" = 50'
0 10 20 30 40 50 100

NOTE:
THIS IS NOT A PROPERTY BOUNDARY SURVEY. PROPERTY BOUNDARIES SHOWN ON THIS MAP ARE BASED ON AVAILABLE FURNISHED INFORMATION AND ARE APPROXIMATE ONLY AND SHOULD NOT BE USED TO ESTABLISH PROPERTY BOUNDARY LOCATION IN THE FIELD.

W-L MOLDING

8212 SHAVER RD
PORTAGE, MI 49024

INDOOR AIR SAMPLE LOCATIONS



envirollogic
environmental consulting + services

2960 INTERSTATE PARKWAY
KALAMAZOO, MICHIGAN 49048
PH: (269) 342-1100 FAX: (269) 342-4945

PROJECT NO.

160362

FIGURE No.

1

ATTACHMENT B

TABLE 1: INDOOR AIR ANALYTICAL DATA



W-L Molding Table 1 - Indoor Air Data		Tetrachloroethylene (ppbv)	Trichloroethylene (ppbv)
Indoor Air Action Level		27	1.6
Indoor Air Evacuation Level		69	4.8
Sample ID	Sample Date		
WLM-1	1/23/17	<0.9	1.5
	4/26/17	<0.9	26
WLM-2	1/23/17	<0.9	3.5
	4/26/17	<0.9	5.0
WLM-3	1/23/17	<0.9	10
	4/26/17	<0.9	120
WLM-4	1/23/17	<0.9	12
	4/26/17	<0.9	0.042
WLM-5	1/23/17	<0.9	2.7
	4/26/17	<0.9	0.32
WLM-6	1/23/17	<0.9	1.3
WLM-7	1/23/17	<0.9	33
	4/26/17	<0.9	0.73
WLM-8	1/23/17	<0.9	34
	4/26/17	<0.9	1.3
WLM-9	1/23/17	<0.9	0.31
WLM-10	1/23/17	<0.9	38
	4/26/17	<0.9	1.1
WLM-11	1/23/17	<0.9	49
	4/26/17	<0.9	1.3
Notes:			
1. All values expressed in parts per billion by volume (ppbv)			
2. Results are bolded where detected and <u>underlined</u> where above the applicable indoor air level			
3. Non-Residential consensus interim values calculated using the USEPA OSWER Vapor Intrusion Assessment Calculator			
4. (<N): Less than reporting limit			

ATTACHMENT C

LABORATORY ANALYTICAL REPORT





Wednesday, February 01, 2017

Fibertec Project Number: 77054
Project Identification: WL Molding (160362) /160362
Submittal Date: 01/25/2017

Mr. David Stegink
Envirologic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, MI 49048

Dear Mr. Stegink,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 14 days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink, appearing to read "Shirley Xiong".

By Shirley Xiong at 10:34 AM, Feb 01, 2017

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-001

Order: 77054
Page: 2 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-1	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 1	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:19

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **77054-001** Matrix: **Air**

Method: EPA TO-15

Description: **WLM-1**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
‡ 1. Acetone	U		ppbv	15	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
2. Benzene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
3. Benzyl Chloride	U		ppbv	0.30	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
4. Bromodichloromethane	U		ppbv	0.12	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
5. Bromoform	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
6. Bromomethane	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
7. 1,3-Butadiene	U		ppbv	0.080	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
8. 2-Butanone	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 9. Carbon Disulfide	U		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
10. Carbon Tetrachloride	U		ppbv	0.12	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
11. Chlorobenzene	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
12. Chloroethane	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
13. Chloroform	U		ppbv	0.12	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
14. Chloromethane	U		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
15. Cyclohexane	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
16. Dibromochloromethane	U		ppbv	0.080	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
17. 1,2-Dichlorobenzene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
18. 1,3-Dichlorobenzene	U		ppbv	0.30	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
19. 1,4-Dichlorobenzene	U		ppbv	0.30	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
20. Dichlorodifluoromethane	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
21. 1,1-Dichloroethane	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
22. 1,2-Dichloroethane	U		ppbv	0.12	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
23. 1,1-Dichloroethene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
24. cis-1,2-Dichloroethene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
25. trans-1,2-Dichloroethene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
26. 1,2-Dichloropropane	U		ppbv	0.30	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
27. cis-1,3-Dichloropropene	U		ppbv	0.9	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
28. trans-1,3-Dichloropropene	U		ppbv	0.9	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
29. 1,4-Dioxane	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 30. Ethyl Acetate	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
31. Ethylbenzene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
32. Ethylene Dibromide	U		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
33. n-Heptane	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
34. Hexachlorobutadiene	U		ppbv	0.080	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
35. n-Hexane	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 36. 2-Hexanone	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 37. Isopropanol	14		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-001

Order: 77054
 Page: 3 of 14
 Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-1	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 1	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:19

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 77054-001 **Matrix: Air**
Description: WLM-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
38. Methylene Chloride	U		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 39. 2-Methylnaphthalene	U		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
40. 4-Methyl-2-pentanone	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
41. MTBE	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 42. Naphthalene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
43. Styrene	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
44. 1,1,2,2-Tetrachloroethane	U		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
45. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 46. Tetrahydrofuran	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
47. Toluene	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
48. 1,2,4-Trichlorobenzene	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
49. 1,1,1-Trichloroethane	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
50. 1,1,2-Trichloroethane	U		ppbv	0.12	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
51. Trichloroethene	1.5		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
52. Trichlorofluoromethane	U		ppbv	1.5	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
53. 1,1,2-Trichlorotrifluoroethane	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
54. 1,2,4-Trimethylbenzene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
55. 1,3,5-Trimethylbenzene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
56. Vinyl Acetate	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
57. Vinyl Chloride	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
58. m&p-Xylene	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
59. o-Xylene	U		ppbv	3.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
‡ 60. Xylenes	U		ppbv	6.0	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

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 11766 E. Grand River
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Holt, MI 48842
 Brighton, MI 48116
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T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-002

Order: 77054
Page: 4 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-2	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 2	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:22

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-002 Matrix: Air

Method: EPA TO-15

Description: WLM-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
2. Trichloroethene	3.5		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

1914 Holloway Drive
11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-003

Order: 77054
Page: 5 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-3	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 3	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:27

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-003

Matrix: Air

Method: EPA TO-15

Description: WLM-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
2. Trichloroethene	10		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

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11766 E. Grand River
8660 S. Mackinaw Trail

Holt, MI 48842
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T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-004

Order: 77054
Page: 6 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-4	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 4	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:32

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-004

Matrix: Air

Method: EPA TO-15

Description: WLM-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
2. Trichloroethene	12		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

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Holt, MI 48842
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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-005

Order: 77054
Page: 7 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-5	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 5	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:39

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-005

Matrix: Air

Method: EPA TO-15

Description: WLM-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB
2. Trichloroethene	2.7		ppbv	0.030	1.0	01/26/17	VK17A26A	01/26/17	VK17A26A	NSB

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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-006

Order: 77054
Page: 8 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-6	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 6	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:13

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: **77054-006** Matrix: **Air**

Method: EPA TO-15

Description: **WLM-6**

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	1.3		ppbv	0.030	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-007

Order: 77054
 Page: 9 of 14
 Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-7	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 7	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:49

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-007

Matrix: Air

Method: EPA TO-15

Description: WLM-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	33		ppbv	0.030	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-008

Order: 77054
Page: 10 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-8	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 8	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:52

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-008

Matrix: Air

Method: EPA TO-15

Description: WLM-8

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	34		ppbv	0.030	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-009

Order: 77054
Page: 11 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-9	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 9	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 06:56

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-009

Matrix: Air

Method: EPA TO-15

Description: WLM-9

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		Init.
						P. Date	P. Batch	A. Date	A. Batch	
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	0.31		ppbv	0.030	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-010

Order: 77054
Page: 12 of 14
Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-10	Chain of Custody: 154758
Client Project Name: WL Molding (160362)	Sample No: 10	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:00

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-010

Matrix: Air

Method: EPA TO-15

Description: WLM-10

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	38		ppbv	0.030	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR

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T: (231) 775-8368

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F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory Report
Laboratory Project Number: 77054
Laboratory Sample Number: 77054-011

Order: 77054
 Page: 13 of 14
 Date: 02/01/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-11	Chain of Custody: 154759
Client Project Name: WL Molding (160362)	Sample No: 11	Collect Date: 01/24/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:04

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable ‡: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)

Aliquot ID: 77054-011

Matrix: Air

Method: EPA TO-15

Description: WLM-11

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	01/26/17	VA17A26A	01/26/17	VA17A26A	DAR
2. Trichloroethene	49		ppbv	0.054	2.0	01/27/17	VK17A27A	01/27/17	VK17A27A	NSB

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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:



Accreditation Number(s):

T104704518-16-5 (TX)

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Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584



Analytical Laboratory
 1914 Holloway Drive
 Holt, MI 48842
 Phone: 517 699 0345
 Fax: 517 699 0388
 email: lab@fibertec.us

Industrial Hygiene Services, Inc.
 1914 Holloway Drive
 Holt, MI 48842
 Phone: 517 699 0345
 Fax: 517 699 0382
 email: asbestos@fibertechs.com

Geoprobe
 11766 E. Grand River Rd.
 Brighton, MI 48116
 Phone: 810 220 3300
 Fax: 810 220 3311

Chain of Custody #
154758
 PAGE 1 of 2

Client Name: **Envirotec**

Contact Person: **David Stegink**

Project Name/Number:
WL Molding / 160362

Email distribution list:
stegink@envirotec.com, lindt@envirotec.com

Quote #
 Purchase Order #

Date	Time	Sample #	Client Sample Descriptor
1/24/17	619		WLM-1*
	622		WLM-2
	627		WLM-3
	632		WLM-4
	639		WLM-5
	713		WLM-6
	649		WLM-7
	652		WLM-8
	656		WLM-9
	700		WLM-10

Comments: **Report as PPBV. Report TCEd & PCE only**

Initial vac in WLM-1 = 13 / Final = 13. Do not analyze WLM-1.

Sampled/Relinquished By: **[Signature]**

Relinquished By: **[Signature]**

Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY

1 bus. day _____ 2 bus. days _____ 3 bus. days _____ 4 bus. days _____

5-7 bus. days (standard) _____ Other (specify time/date requirement): **77054**

Please see back for terms and conditions

MATRIX (SEE RIGHT CORNER FOR CODE)
 # OF CONTAINERS
10-15 (report TCEd & PCE only)

PARAMETERS	Matrix Code	Deliverables
S Soil	GW Ground Water	Level 2
A Air	SW Surface Water	Level 3
O Oil	WW Waste Water	Level 4
P Wipe	Other: Specify	EDD

Matrix Code	Deliverables
GW Ground Water	Level 2
SW Surface Water	Level 3
WW Waste Water	Level 4
Other: Specify	EDD

Matrix Code	Deliverables
GW Ground Water	Level 2
SW Surface Water	Level 3
WW Waste Water	Level 4
Other: Specify	EDD

Date/Time	Received By:	Received By Laboratory
1/25/17 11:52	[Signature]	[Signature]
1/25/17 14:06	[Signature]	[Signature]

LAB USE ONLY

Fibertec project number:

Temperature upon receipt at Lab:

PM Temp.

Analytical Laboratory
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fibertechs.com

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Client Name: Envirologic		Contact Person: David Stegink		Project Name/Number: WL Molding/160362		Email distribution list: stegink@envirologic.com, lingte@envirologic.com																	
Purchase Order #		Quote #		Matrix (SEE RIGHT CORNER FOR CODE)		PARAMETERS																	
Date	Time	Sample #	Client Sample Descriptor	# OF CONTAINERS	MATRIX	<table border="1"> <tr> <td>S</td><td>Soil</td> <td>GW</td><td>Ground Water</td> </tr> <tr> <td>A</td><td>Air</td> <td>SW</td><td>Surface Water</td> </tr> <tr> <td>O</td><td>Oil</td> <td>WW</td><td>Waste Water</td> </tr> <tr> <td>P</td><td>Wipe</td> <td>X</td><td>Other: Specify</td> </tr> </table>		S	Soil	GW	Ground Water	A	Air	SW	Surface Water	O	Oil	WW	Waste Water	P	Wipe	X	Other: Specify
S	Soil	GW	Ground Water																				
A	Air	SW	Surface Water																				
O	Oil	WW	Waste Water																				
P	Wipe	X	Other: Specify																				
1/24/17	704	# WL M-11		A 1 X		HOLD SAMPLE Bottle ID: 24174 start/stop Remarks: 22052 hold 704/619																	
				A 1 X																			
Comments: Report as PbV. Do not analyze M-1. Report TCE & PCE only. can 22052 make a hissing noise upon deployment/obvious leak/vac dropped from -25 to 0 in 4 min																							
Sampled/Relinquished By: [Signature]		Date/Time	Received By: [Signature]	Date/Time	Received By: [Signature]	Date/Time: 1/25/17 11:50 Date/Time: 1/25/17 14:06																	
Relinquished By: [Signature]		Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY		Date/Time: 1/25/17 11:50		Date/Time: 1/25/17 14:06																	
1 bus. day 2 bus. days 3 bus. days 4 bus. days		Fibertec project number:		Temperature upon receipt at Lab:		LAB USE ONLY																	
X 5-7 bus. days (standard)		Other (specify time/date requirement):		Please see back for terms and conditions		RM Temp.																	



Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VA17A26A
Page: 1 of 1
Date: 02/01/17

Preparation Batch: VA17A26A Preparation Date: 01/26/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code			
	Result ppbv	RL ppbv	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Tetrachloroethene	U	0.90		12.9	12.1	107	70 - 130		107	0	20		MB-2	LCS-2	LCD-2
2. Trichloroethene	U	0.030		13.5	12.1	112	72 - 134		112	0	20		MB-2	LCS-2	LCD-2

System Monitoring Compounds (Surrogates):	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code				
	Result ppbv	Spike ppbv	Rec. %	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. 4-Bromofluorobenzene(S)	6.48	6.38	102		6.98	6.38	110	80 - 120		106	4	20		MB-2	LCS-2	LCD-2

Definitions/ Qualifiers:

- U: The analyte was not detected at or above the Reporting Limit (RL).
- *: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-2	VA17A26A	01/26/17 14:50
LCS-2	VA17A26A	01/26/17 12:10
LCD-2	VA17A26A	01/26/17 12:57

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Shirley Xiong at 10:42 AM, Feb 01, 2017

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11766 E. Grand River
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Holt, MI 48842
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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VK17A26A
Page: 1 of 2
Date: 02/01/17

Preparation Batch: VK17A26A Preparation Date: 01/26/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result ppbv	RL ppbv	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Acetone	U	15		12.7	12.1	105	68 - 130		107	2	20		MB-1	LCS-1	LCD-1
2. Benzene	U	0.90		12.8	12.3	104	71 - 133		104	0	20		MB-1	LCS-1	LCD-1
3. Benzyl Chloride	U	0.30		15.1	11.6	130	75 - 139		130	0	20		MB-1	LCS-1	LCD-1
4. Bromodichloromethane	U	0.12		12.6	12.3	103	71 - 131		103	0	20		MB-1	LCS-1	LCD-1
5. Bromoform	U	1.5		13.6	12.2	112	72 - 134		112	0	20		MB-1	LCS-1	LCD-1
6. Bromomethane	U	0.90		11.9	11.7	102	73 - 135		103	1	20		MB-1	LCS-1	LCD-1
7. 1,3-Butadiene	U	0.080		12.4	12.3	101	73 - 137		101	0	20		MB-1	LCS-1	LCD-1
8. 2-Butanone	U	3.0		12.5	12.5	100	72 - 134		101	1	20		MB-1	LCS-1	LCD-1
9. Carbon Disulfide	U	6.0		12.0	12.5	96	69 - 127		97	1	20		MB-1	LCS-1	LCD-1
10. Carbon Tetrachloride	U	0.12		13.5	12.2	110	72 - 134		109	1	20		MB-1	LCS-1	LCD-1
11. Chlorobenzene	U	3.0		12.4	12.4	100	70 - 130		102	2	20		MB-1	LCS-1	LCD-1
12. Chloroethane	U	1.5		11.8	11.5	103	74 - 136		103	0	20		MB-1	LCS-1	LCD-1
13. Chloroform	U	0.12		12.6	12.4	102	72 - 132		102	0	20		MB-1	LCS-1	LCD-1
14. Chloromethane	U	6.0		10.7	12.2	88	70 - 130		89	1	20		MB-1	LCS-1	LCD-1
15. Cyclohexane	U	3.0		12.9	12.3	105	74 - 138		103	2	20		MB-1	LCS-1	LCD-1
16. Dibromochloromethane	U	0.080		12.6	12.1	104	72 - 134		108	4	20		MB-1	LCS-1	LCD-1
17. 1,2-Dichlorobenzene	U	1.5		13.6	12.1	113	72 - 134		112	1	20		MB-1	LCS-1	LCD-1
18. 1,3-Dichlorobenzene	U	0.30		13.8	12.1	114	75 - 139		113	1	20		MB-1	LCS-1	LCD-1
19. 1,4-Dichlorobenzene	U	0.30		14.0	12.0	117	76 - 140		116	1	20		MB-1	LCS-1	LCD-1
20. Dichlorodifluoromethane	U	3.0		13.6	12.1	113	71 - 131		112	1	20		MB-1	LCS-1	LCD-1
21. 1,1-Dichloroethane	U	1.5		12.2	12.2	100	71 - 131		100	0	20		MB-1	LCS-1	LCD-1
22. 1,2-Dichloroethane	U	0.12		12.9	12.1	106	71 - 133		106	0	20		MB-1	LCS-1	LCD-1
23. 1,1-Dichloroethene	U	1.5		13.4	12.5	108	72 - 134		108	0	20		MB-1	LCS-1	LCD-1
24. cis-1,2-Dichloroethene	U	1.5		12.9	12.2	106	72 - 134		106	0	20		MB-1	LCS-1	LCD-1
25. trans-1,2-Dichloroethene	U	1.5		12.4	12.1	102	71 - 133		103	1	20		MB-1	LCS-1	LCD-1
26. 1,2-Dichloropropane	U	0.30		12.1	12.2	99	71 - 131		99	0	20		MB-1	LCS-1	LCD-1
27. cis-1,3-Dichloropropene	U	0.90		12.8	11.6	110	74 - 138		111	1	20		MB-1	LCS-1	LCD-1
28. trans-1,3-Dichloropropene	U	0.90		13.2	11.7	112	75 - 139		113	1	20		MB-1	LCS-1	LCD-1
29. 1,4-Dioxane	U	1.5		13.2	12.4	106	73 - 135		108	2	20		MB-1	LCS-1	LCD-1
30. Ethyl Acetate	U	3.0		12.2	12.3	99	71 - 131		101	2	20		MB-1	LCS-1	LCD-1
31. Ethylbenzene	U	1.5		13.2	12.3	107	75 - 139		109	2	20		MB-1	LCS-1	LCD-1
32. Ethylene Dibromide	U	0.030		12.8	12.2	105	71 - 133		107	2	20		MB-1	LCS-1	LCD-1
33. n-Heptane	U	3.0		12.8	12.4	104	75 - 141		102	2	20		MB-1	LCS-1	LCD-1
34. Hexachlorobutadiene	U	0.080		13.8	11.9	116	73 - 137		116	0	20		MB-1	LCS-1	LCD-1
35. n-Hexane	U	3.0		12.7	12.4	103	74 - 136		103	0	20		MB-1	LCS-1	LCD-1
36. 2-Hexanone	U	3.0		13.3	12.9	103	76 - 142		104	1	20		MB-1	LCS-1	LCD-1
37. Isopropanol	U	6.0		14.6	12.9	113	68 - 130		117	3	20		MB-1	LCS-1	LCD-1
38. Methylene Chloride	U	6.0		13.0	12.3	106	71 - 133		106	0	20		MB-1	LCS-1	LCD-1
39. 2-Methylnaphthalene	U	6.0		13.1	11.2	117	73 - 137		121	3	20		MB-1	LCS-1	LCD-1
40. 4-Methyl-2-pentanone	U	3.0		12.8	12.5	102	74 - 138		102	0	20		MB-1	LCS-1	LCD-1
41. MTBE	U	1.5		13.8	12.4	111	71 - 133		111	0	20		MB-1	LCS-1	LCD-1
42. Naphthalene	U	1.5		14.8	11.7	126	74 - 138		129	2	20		MB-1	LCS-1	LCD-1
43. Styrene	U	3.0		13.0	12.3	106	74 - 136		107	1	20		MB-1	LCS-1	LCD-1
44. 1,1,2,2-Tetrachloroethane	U	0.030		12.2	12.3	99	71 - 131		99	0	20		MB-1	LCS-1	LCD-1
45. Tetrachloroethene	U	0.90		12.8	12.1	106	70 - 130		108	2	20		MB-1	LCS-1	LCD-1
46. Tetrahydrofuran	U	1.5		12.8	12.4	103	73 - 135		103	0	20		MB-1	LCS-1	LCD-1
47. Toluene	U	1.5		13.4	12.2	109	73 - 135		111	2	20		MB-1	LCS-1	LCD-1
48. 1,2,4-Trichlorobenzene	U	3.0		13.0	11.3	115	75 - 139		117	2	20		MB-1	LCS-1	LCD-1
49. 1,1,1-Trichloroethane	U	1.5		13.2	12.1	110	71 - 133		109	1	20		MB-1	LCS-1	LCD-1
50. 1,1,2-Trichloroethane	U	0.12		12.0	12.2	99	69 - 129		100	1	20		MB-1	LCS-1	LCD-1
51. Trichloroethene	U	0.030		13.0	12.1	108	72 - 134		108	0	20		MB-1	LCS-1	LCD-1

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VK17A26A
Page: 2 of 2
Date: 02/01/17

Preparation Batch: VK17A26A Preparation Date: 01/26/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result ppbv	RL ppbv	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
52. Trichlorofluoromethane	U	1.5		13.6	12.4	109	73 - 135		109	0	20		MB-1	LCS-1	LCD-1
53. 1,1,2-Trichlorotrifluoroethane	U	3.0		12.4	12.4	100	71 - 131		101	1	20		MB-1	LCS-1	LCD-1
54. 1,2,4-Trimethylbenzene	U	0.90		13.5	12.1	111	75 - 139		111	0	20		MB-1	LCS-1	LCD-1
55. 1,3,5-Trimethylbenzene	U	0.90		13.5	12.1	112	74 - 136		111	1	20		MB-1	LCS-1	LCD-1
56. Vinyl Acetate	U	3.0		14.3	13.0	110	72 - 134		108	2	20		MB-1	LCS-1	LCD-1
57. Vinyl Chloride	U	0.90		12.4	12.1	102	74 - 136		102	0	20		MB-1	LCS-1	LCD-1
58. m&p-Xylene	U	3.0		25.6	24.3	105	74 - 138		107	2	20		MB-1	LCS-1	LCD-1
59. o-Xylene	U	3.0		12.9	12.3	105	73 - 135		106	1	20		MB-1	LCS-1	LCD-1

System Monitoring Compounds (Surrogates)	Method Blank (MB)				Laboratory Control Sample (LCS)					LCS Duplicate (LCD)				Run Code		
	Result ppbv	Spike ppbv	Rec. %	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. 4-Bromofluorobenzene(S)	6.60	6.38	104		7.11	6.38	112	80 - 120		110	2	20		MB-1	LCS-1	LCD-1

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
*****: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-1 VK17A26A 01/26/17 13:43
LCS-1 VK17A26A 01/26/17 11:00
LCD-1 VK17A26A 01/26/17 11:54

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:



By Shirley Xiong at 10:42 AM, Feb 01, 2017

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Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VK17A27A
Page: 1 of 1
Date: 02/01/17

Preparation Batch: VK17A27A Preparation Date: 01/27/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code			
	Result	RL	Q	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
	ppbv	ppbv		ppbv	ppbv	%	%		%	%	%				
1. Trichloroethene	U	0.054		12.8	12.1	106	72 - 134		106	0	20		MB-3	LCS-3	LCD-3

System Monitoring Compounds (Surrogates)	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code			
	Result	Spike	Rec.	Result	Spike	Rec.	LCL - UCL	Q	Rec.	RPD	UCL	Q	MB	LCS	LCD
	ppbv	ppbv	%	ppbv	ppbv	%	%		%	%	%				
1. 4-Bromofluorobenzene(S)	6.56	6.38	103	7.18	6.38	113	80 - 120		111	2	20		MB-3	LCS-3	LCD-3

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
*****: Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-3 VK17A27A 01/27/17 13:37
LCS-3 VK17A27A 01/27/17 10:52
LCD-3 VK17A27A 01/27/17 11:46

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Shirley Xiong at 10:42 AM, Feb 01, 2017

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Holt, MI 48842
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Cadillac, MI 49601

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Friday, May 05, 2017

Fibertec Project Number: 78401
Project Identification: WL Molding (160362) /160362
Submittal Date: 04/28/2017

Mr. David Stegink
Envirologic Technologies, Inc.
2960 Interstate Parkway
Kalamazoo, MI 49048

Dear Mr. Stegink,

Thank you for selecting Fibertec Environmental Services as your analytical laboratory. The samples you submitted have been analyzed in accordance with NELAC standards and the results compiled in the attached report. Any exceptions to NELAC compliance are noted in the report. These results apply only to those samples submitted. Please note TO-15 samples will be disposed of 10 calendar days after the reporting date. All other samples will be disposed of 30 days after the reporting date.

If you have any questions regarding these results or if we may be of further assistance to you, please contact me at (517) 699-0345.

Sincerely,

A handwritten signature in black ink that reads "Emily Kennedy".

By Emily Kennedy at 10:41 AM, May 05, 2017

For Daryl P. Strandbergh
Laboratory Director

Enclosures

1914 Holloway Drive
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8660 S. Mackinaw Trail

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-001

Order: 78401
 Page: 2 of 12
 Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-1	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:11

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-001 **Matrix: Air**
Description: WLM-1

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	26		ppbv	0.030	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-002

Order: 78401
Page: 3 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-2	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:14

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-002 **Matrix: Air**
Description: WLM-2

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	5.0		ppbv	0.030	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-003

Order: 78401
Page: 4 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-3	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:21

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-003 **Matrix: Air**
Description: WLM-3

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	120		ppbv	0.27	10	05/03/17	VK17E03A	05/03/17	VK17E03A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-004

Order: 78401
Page: 5 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-4	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:25

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-004 **Matrix: Air**
Description: WLM-4

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	0.042		ppbv	0.030	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-005

Order: 78401
Page: 6 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-5	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:28

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-005 **Matrix: Air**
Description: WLM-5

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	0.32		ppbv	0.030	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-006

Order: 78401
 Page: 7 of 12
 Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-7	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:30

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-006 **Matrix: Air**
Description: WLM-7

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR
2. Trichloroethene	0.73		ppbv	0.030	1.0	05/02/17	VK17E02A	05/02/17	VK17E02A	DAR

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-007

Order: 78401
Page: 8 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-8	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:34

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-007 **Matrix: Air**
Description: WLM-8

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR
2. Trichloroethene	1.3		ppbv	0.030	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR

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Cadillac, MI 49601

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T: (231) 775-8368

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-008

Order: 78401
Page: 9 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-10	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:38

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-008 **Matrix: Air**
Description: WLM-10

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR
2. Trichloroethene	1.1		ppbv	0.030	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR

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Cadillac, MI 49601

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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-009

Order: 78401
Page: 10 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: WLM-11	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: 07:41

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-009 **Matrix: Air**
Description: WLM-11

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR
2. Trichloroethene	1.3		ppbv	0.030	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR

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T: (231) 775-8368

F: (517) 699-0388
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Analytical Laboratory Report
Laboratory Project Number: 78401
Laboratory Sample Number: 78401-010

Order: 78401
Page: 11 of 12
Date: 05/05/17

Client Identification: Envirologic Technologies, Inc.	Sample Description: M-1A	Chain of Custody: 156456
Client Project Name: WL Molding (160362)	Sample No:	Collect Date: 04/26/17
Client Project No: 160362	Sample Matrix: Air	Collect Time: NA

Sample Comments:

Definitions: Q: Qualifier (see definitions at end of report) NA: Not Applicable †: Parameter not included in NELAC Scope of Analysis.

TO-15 (Summa)
Method: EPA TO-15

Aliquot ID: 78401-010 **Matrix: Air**
Description: M-1A

Parameter(s)	Result	Q	Units	Reporting Limit	Dilution	Preparation		Analysis		
						P. Date	P. Batch	A. Date	A. Batch	Init.
1. Tetrachloroethene	U		ppbv	0.90	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR
2. Trichloroethene	1.0		ppbv	0.030	1.0	05/02/17	VK17E02A	05/03/17	VK17E02A	DAR

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Cadillac, MI 49601

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T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
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Definitions/ Qualifiers:

- A:** Spike recovery or precision unusable due to dilution.
- B:** The analyte was detected in the associated method blank.
- E:** The analyte was detected at a concentration greater than the calibration range, therefore the result is estimated.
- J:** The concentration is an estimated value.
- M:** Modified Method
- U:** The analyte was not detected at or above the reporting limit.
- X:** Matrix Interference has resulted in a raised reporting limit or distorted result.
- W:** Results reported on a wet-weight basis.
- *:** Value reported is outside QC limits

Exception Summary:



Accreditation Number(s):

T104704518-17-6 (TX)

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11766 E. Grand River
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Holt, MI 48842
Brighton, MI 48116
Cadillac, MI 49601

T: (517) 699-0345
T: (810) 220-3300
T: (231) 775-8368

F: (517) 699-0388
F: (810) 220-3311
F: (231) 775-8584

1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0388
email: lab@fibertec.us

Analytical Laboratory
8660 S. Meckinaw Trail
Cadillac, MI 49601
Phone: 231 775 8368
Fax: 231 775 8584
email: lab@fibertec.us

Industrial Hygiene Services, Inc.
1914 Holloway Drive
Holt, MI 48842
Phone: 517 699 0345
Fax: 517 699 0382
email: asbestos@fibertechs.com

Geoprobe
11766 E. Grand River Rd.
Brighton, MI 48116
Phone: 810 220 3300
Fax: 810 220 3311

Client Name: Envirotec Technologies, Inc.		Contact Person: David Stegink		Project Name/ Number: WL Molding/160362		Email distribution list: stegink@envirologic.com lindie@envirologic.com		Quote#		Purchase Order#	
Date		Time		Sample #		Client Sample Descriptor		MATRIX (SEE RIGHT CORNER FOR CODE)		# OF CONTAINERS	
4/26/17		711		WLM-1		A		1		X	
714		WLM-2		A		1		X		X	
721		WLM-3		A		1		X		X	
725		WLM-4		A		1		X		X	
728		WLM-5		A		1		X		X	
730		WLM-8		A		1		X		X	
734		WLM-10		A		1		X		X	
738		WLM-11		A		1		X		X	
741		M-1A		A		1		X		X	
-		-		A		1		X		X	
Comments: Reports as PPBV and ug/m³. Report TCE & PCE only.											
Sampled/Relinquished By: [Signature]				Date/Time: 4/26/17 12:30				Received By: [Signature]			
Relinquished By: [Signature]				Date/Time: 4/26/17 14:18				Received By: [Signature]			
Turnaround Time ALL RESULTS WILL BE SENT BY THE END OF THE BUSINESS DAY 1 bus. day 2 bus. days 3 bus. days 4 bus. days X 5-7 bus. days (standard) Other (specify time/date requirement): _____											
Fibertec project number: 78401 Temperature upon receipt at Lab: Rm Temp.						Matrix Code S Soil GW Ground Water A Air SW Surface Water O Oil WW Waste Water P Wipe Other: Specify _____					
Bottle ID: 791, 548, 619, 785, 615, 112, 617, 721, 151, 631						Start/stop: 711/314, 714/315, 721/317, 725/318, 728/323, 730/321, 734/324, 738/328, 741/331, -7HR 56Min					
PARAMETERS HOLD SAMPLE Initial: DB RECEIVED BY LAB APR 28 2017											
Deliverables Level 2 Level 3 Level 4 EDD											

Please see back for terms and conditions



Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VK17E02A
 Page: 1 of 1
 Date: 05/05/17

Preparation Batch: VK17E02A Preparation Date: 05/02/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code			
	Result ppbv	RL ppbv	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Tetrachloroethene	U	0.90		13.4	13.5	100	70 - 130		100	0	20		MB-1	LCS-1	LCD-1
2. Trichloroethene	U	0.030		13.9	13.5	103	72 - 134		102	1	20		MB-1	LCS-1	LCD-1

System Monitoring Compounds (Surrogates):	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code				
	Result ppbv	Spike ppbv	Rec. %	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. 4-Bromofluorobenzene(S)	6.70	6.38	105		7.10	6.38	111	80 - 120		112	1	20		MB-1	LCS-1	LCD-1

Definitions/ Qualifiers:

Run Code (Analysis Sequence/Run Time):

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

MB-1 VK17E02A 05/02/17 15:12
 LCS-1 VK17E02A 05/02/17 12:27
 LCD-1 VK17E02A 05/02/17 13:21

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Emily Kennedy at 10:45 AM, May 05, 2017

1914 Holloway Drive
 11766 E. Grand River
 8660 S. Mackinaw Trail

Holt, MI 48842
 Brighton, MI 48116
 Cadillac, MI 49601

T: (517) 699-0345
 T: (810) 220-3300
 T: (231) 775-8368

F: (517) 699-0388
 F: (810) 220-3311
 F: (231) 775-8584



Quality Control Report
Preparation Batch QC Summary
Gas Chromatography - Mass Spectrometry (TO-15)
Air

Batch ID: VK17E03A
 Page: 1 of 1
 Date: 05/05/17

Preparation Batch: VK17E03A Preparation Date: 05/03/17

Parameter	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code			
	Result ppbv	RL ppbv	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. Trichloroethene	U	0.27		13.8	13.5	102	72 - 134		102	0	20		MB-2	LCS-2	LCD-2

System Monitoring Compounds (Surrogates)	Method Blank (MB)			Laboratory Control Sample (LCS)					LCS Duplicate (LCD)			Run Code				
	Result ppbv	Spike ppbv	Rec. %	Q	Result ppbv	Spike ppbv	Rec. %	LCL - UCL %	Q	Rec. %	RPD %	UCL %	Q	MB	LCS	LCD
1. 4-Bromofluorobenzene(S)	6.55	6.38	103		6.88	6.38	108	80 - 120		109	1	20		MB-2	LCS-2	LCD-2

Definitions/ Qualifiers:

U: The analyte was not detected at or above the Reporting Limit (RL).
***:** Value reported is outside QC limits

Run Code (Analysis Sequence/Run Time):

MB-2 VK17E03A 05/03/17 14:23
 LCS-2 VK17E03A 05/03/17 11:39
 LCD-2 VK17E03A 05/03/17 12:33

Exception Summary:

Exceptions have been properly noted on reported results or affected samples have been scheduled for reanalysis when appropriate.

Report Generated By:

By Emily Kennedy at 10:45 AM, May 05, 2017

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